

Health Advisory: Pertussis

December 5, 2003

This document will be updated as new information becomes available. The current version can always be viewed at <http://www.dhss.state.mo.us/>.

The Missouri Department of Health & Senior Services (DHSS) is now using 4 types of documents to provide important information to medical and public health professionals, and to other interested persons:

Health Alerts convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

Health Guidances contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

Health Updates provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

Office of the Director
912 Wildwood
P.O. Box 570
Jefferson City, MO 65102
Telephone: (800) 392-0272
Fax: (573) 751-6041
Web site: www.dhss.state.mo.us

Health Advisory
December 5, 2003

**FROM: RICHARD C. DUNN
DIRECTOR**

SUBJECT: Pertussis

Pertussis is one of the few vaccine-preventable diseases that are still endemic in the United States. In Missouri, the annual number of reported pertussis cases has been increasing in recent years. In 1997, there were 80 cases reported in the state; in 1998, 59 cases; in 1999, 75 cases; in 2000, 97 cases; in 2001, 107 cases; and in 2002, 147 cases (the largest number reported since 1967).

In 2003, through November 22 (week 47), 78 laboratory-confirmed pertussis cases have been reported, and 11 more are pending as the result of an outbreak investigation in the northwestern part of the state. In addition, during the past month, the Missouri State Public Health Laboratory has been receiving requests for pertussis testing that are well above historic levels.

Young infants, many of whom have not completed the primary three-dose series of DTap vaccine, are at highest risk for acquiring clinical pertussis, and for developing pertussis-associated complications. The most common complication, and the cause of most pertussis-related deaths, is secondary bacterial pneumonia. Neurological complications such as seizures and encephalopathy may occur as a result of reduction of oxygen supply to the brain because of coughing or possibly from toxin. Other less serious complications of pertussis include otitis media, anorexia, and dehydration. From 1997-2000, 20 percent of all pertussis cases reported in the U.S. required hospitalization, including 63 percent of all cases in infants <6 months of age. During this four-year period, 62 deaths resulted from pertussis. Fifty-six (90 percent) of these deaths occurred in children <6 months of age.

Health care providers should strongly encourage parents to immunize infants on time. It is also especially important for providers to be vigilant when diagnosing any cough illnesses of more than two weeks duration. Providers should be watchful for, and consider testing and treatment of, adolescents and adults who have symptoms of pertussis, especially if they are household contacts to infants and young children.

Providers may begin to vaccinate infants as early as 6 weeks of age. Children should receive the three-dose primary series by 6 months of age and a fourth, booster, dose by 12-18 months of age. Any child under 7 years of age who has not received the appropriate number of doses should finish the series. A table with recommended and minimum ages and intervals for administering DTap vaccine is provided below. A complete schedule of recommended ages and minimum intervals for all routine vaccines is available from the Centers for Disease Control and Prevention (CDC) at <http://www.cdc.gov/nip/publications/pink/Appendices/A/MinInt.pdf>.

Efficacy of DTap vaccine is 80-84 percent, so children who are fully immunized still have a small risk of acquiring pertussis. Immunity wanes 5-10 years after the last booster dose. As a result, virtually all adolescents and adults are susceptible to the disease.

Vaccination with DTaP is not recommended for anyone after his or her seventh birthday. Vaccine reactions are thought to be more frequent in older age groups, and pertussis-associated morbidity and mortality decrease with increasing age.

Health care providers should consider a diagnosis of pertussis if a patient has a cough illness lasting at least two weeks with one of the following: 1) paroxysms of coughing, 2) inspiratory “whoop,” or 3) post-tussive vomiting, and without other apparent cause. Testing (within 3 weeks of cough onset) should be performed if: 1) pertussis is strongly suspected, 2) symptoms compatible with pertussis are present (paroxysmal cough, whoop, apnea), or 3) the individual has an acute cough (any duration) and exposure to a pertussis case. (Note that a person who has a positive test result on pertussis PCR testing, but who does not have a cough, is not considered to be a pertussis case.)

Current recommendations for pertussis prophylaxis and treatment are contained in the 2003 *Red Book* (American Academy of Pediatrics, 2003 Report of the Committee on Infectious Diseases). A full case definition for pertussis is found in CDC’s *Manual for the Surveillance of Vaccine-Preventable Diseases*, available at http://www.cdc.gov/nip/publications/surv-manual/chpt08_pertussis.pdf. A comprehensive reference document on pertussis is *Guidelines for the Control of Pertussis Outbreaks*, available from CDC at <http://www.cdc.gov/nip/publications/pertussis/guide.htm>. This document provides information on appropriate testing and outbreak control. If you need to refer to these publications and cannot access them on CDC’s web site, please contact Sue Denny in the Missouri Department of Health & Senior Services’ (DHSS’) Section for Communicable Disease Prevention at 573-751-6439.

Pertussis is a Category I reportable disease in Missouri. All cases must be reported to the local public health agency or to DHSS within 24 hours of first knowledge or suspicion by telephone, facsimile, or other rapid communication. Health care providers should report cases when they are first suspected, and not wait until they receive laboratory confirmation of pertussis.

For assistance in conducting contact investigations, please call your DHSS regional immunization representative, or DHSS’s Section for Communicable Disease Prevention at 573-751-6122.

Recommended and Minimum Ages and Intervals Between Doses of DTaP

Vaccine and dose number	Recommended age	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Diphtheria and tetanus toxoids and acellular pertussis (DTaP)1	2 months	6 weeks	2 months	4 weeks
DTaP2	4 months	10 weeks	2 months	4 weeks
DTaP3	6 months	14 weeks	6–12 months	6 months
DTaP4	15–18 months	12 months	3 years	6 months*
DTaP5	4–6 years	4 years	—	—

* DTaP4 does not need to be repeated if administered >4 months after DTaP3.